Whitetopping of road from Shesadripuram First Grade College to Aroma Bakery Junction via 3rd A cross Road,1st A Main Road,16th B Cross Road			
		Length of Road, m	1975
Summary of Cost			
Sl. No.	Items	Amount, Rs.	Amount, Rs. Crores
1	Carriageway Improvements	47,788,473.39	4.78
2	Traffic Signs, Markings and Other Road Appurtenances	1,285,314.82	0.13
3	Uliity ducts,Utility Lines, Power Cross Over Chambers, Sewer Chamber	9,172,100.31	0.92
4	Rain Water Harvesting	1,367,591.30	0.14
5	Roadside Drain	41,751,478.28	4.18
6	Kerb and Footpath improvement	17,513,136.93	1.75
7	Dismantling Work	3,973,378.20	0.40
	Construction Cost, Rs.	122,851,473.23	12.29
	Amount put to tender	122,851,473.23	12.29
	DPR, PMC Charges @ 1% of Construction Cost	1,228,514.73	0.12
	Quality Control @ 0.23% of Construction Cost	282,558.39	0.03
	Total Cost	124,362,546.35	12.44
	GST Components (12% of Total Cost)	14,923,505.56	1.49
	Total Project Cost, Rs.	139,286,051.91	13.93

Administrative Approval
Accorded For Rs.1393.00 lakhs
Head of A/C 12 3756
CER NO :75 Dt:15/12/2020

A.E.E. (Project)

Technical Sanction
Accorded For Rs1392.86lakh only
Head of A/C P3756
CER NO :997 Dt:11.02.2020

JTA CE (YNK)

DETAILED QUANTITY CALCULATION & COST ESTIMATE FOR ROAD WORKS

Sl No	Description	Unit	No.	Length,m	Width,m	Depth, m	Quantity	Rate	Amount
	Carriageway improvement								
1	Milling the bituminous pavement surface upto a depth of 65mm using milling machine, to make a uniform surface without disturbing the base, cleaning the milled surface, including cost of all labour charges and hire charges of machineries etc complete., including stacking the milled material on the sides of road.	Sqm							
	Page no 151 Item no.19.102								
	Main Carriageway								
	From 0+000 to 0+500		1	500.00	7.50		3750.00		
	From 0+500 to 1+000		1	500.00	7.50		3750.00		
	From 1+000 to 1+500		1	500.00	7.50		3750.00		
	From 1+500 to 1+700		1	200.00	7.50		1500.00		
	From 1+700 to 1+975		1	275.00	7.50		2062.50		
	30% of total Quanitity						**4443.75**	**74.20**	**329,726.25**
2	KSRRB 300-50.Scarifying bitiminous course 50mm to 75mm thick along with premix carpet/surface dressing by power roller attached with scarifer without disturbing the base and stacking the debris including cost of all labour charges ,HOM of machineries complete as per specifications MORTH / Chapter 3	Sqm							
	Page no 146 Item no.19.56								
	Buffer Zone								
	From 0+000 to 0+500		2	500.00	1.50		1500.00		
	From 0+500 to 1+000		2	500.00	1.50		1500.00		
	From 1+000 to 1+500		2	500.00	1.50		1500.00		
	From 1+500 to 1+700		2	200.00	1.50		600.00		
	From 1+700 to 1+975		2	275.00	1.50		825.00		
	Reconstruction Section (1500m length)		1	1500.00	1.20		1800.00		
							23175.00		
	Cross Roads on the Road (42 Nos)		42	20.00	7.50		6300.00		
	Approach Improvement		2	20.00	12.00		480.00		
							29955.00	**41.34**	**1,238,339.70**
3	KSRRB 300-48. Scarifying kankar/gravel/metal crust upto 150mm thick with power roller attached with scarifier disposal of stuff including cost of all labour charges,HOM of machineries complete as per specifications MORTH/Chapter 3	sqm							
	Page no 146 Item no.19.54								
	Buffer Zone								
	From 0+000 to 0+500		2	500.00	1.50		1500.00		
	From 0+500 to 1+000		2	500.00	1.50		1500.00		
	From 1+000 to 1+500		2	500.00	1.50		1500.00		
	From 1+500 to 1+700		2	200.00	1.50		600.00		
	From 1+700 to 1+975		2	275.00	1.50		825.00		
	Reconstruction Section (1500m length)		1	1500.00	1.20		1800.00		
							7725.00	**25.44**	**196,524.00**
4	**Excavation in Soil with Dozer** KSRRB M300-11. Excavation for road way in all types of soil by mechanical means including cutting and pushing the earth to site of embankment including trimming bottom and side slopes in accordance with requirements of lines, grades and cross sections complete as per specifications. MORTH Specification No. 301	Cum							
	Page no 143 Item no.19.14								
	Buffer Zone								
	From 0+000 to 0+500		2	500.00	1.50	0.275	412.50		
	From 0+500 to 1+000		2	500.00	1.50	0.275	412.50		
	From 1+000 to 1+500		2	500.00	1.50	0.275	412.50		
	From 1+500 to 1+700		2	200.00	1.50	0.275	165.00		
	From 1+700 to 1+975		2	275.00	1.50	0.275	226.88		
							1629.38	**43.46**	**70,812.64**

DETAILED QUANTITY CALCULATION & COST ESTIMATE FOR ROAD WORKS

Sl NO	Description	Unit	No.	Length,m	Width,m	Depth, m	Quantity	Rate	Amount
5	Construction of granular sub-base Grading-V as Sub-base and drainage layer by providing coarse graded crushed stone aggregates of granite/ trap/basalt material, mixing in a mechanical mix plant at OMC, Carriage of mixed material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with vibratory power roller to achieve the 98 % proctor density, complete as per specifications. Clause 401 of MORTH V Revision.	Cum							
	Page no 153 Item no.20.6								
	Main Carriageway								
	Reconstruction Section (1500m length)		1	1500.00	1.20	0.20	360.00		
	Buffer Zone								
	From 0+000 to 0+500		2	500.00	1.50	0.25	375.00		
	From 0+500 to 1+000		2	500.00	1.50	0.25	375.00		
	From 1+000 to 1+500		2	500.00	1.50	0.25	375.00		
	From 1+500 to 1+700		2	200.00	1.50	0.25	150.00		
	From 1+700 to 1+975		2	275.00	1.50	0.25	206.25		
							1841.25	**1,855.00**	**3,415,518.75**
6	KSRRB M400-17. Providing, laying, spreading and compacting crushed stone aggregates of granite / trap / basalt to wet mix macadam specifications including pre mixing the material with water at OMC in mechanical mix plant carriage of mixed materials by tipper to site, laying in uniform layers with paver in sub-base/ base course on well prepared surface and compacting with vibratory roller to achieve the desired density complete as per specifications. MORTH Specification No. 406	Cum							
	Page no 155 Item no.20.18								
	Buffer Zone								
	From 0+000 to 0+500		2	500.00	1.50	0.25	375.00		
	From 0+500 to 1+000		2	500.00	1.50	0.25	375.00		
	From 1+000 to 1+500		2	500.00	1.50	0.25	375.00		
	From 1+500 to 1+700		2	200.00	1.50	0.25	150.00		
	From 1+700 to 1+975		2	275.00	1.50	0.25	206.25		
							1481.25	**2,001.28**	**2,964,396.00**
7	KSRRB 500-11. Providing and laying bituminous macadam on prepared surface with crushed coarse aggregates as per design mix formula for base I binding course including loading of aggregates with F. E. loader, hot mixing of stone aggregates and bitumen in hot mix plant,transporting the mixed material in tipper to paver and laying mixed materials with paver finisher to the required level and grade, rolling by smooth wheeled,vibratory & tandem rollers to achieve the desired density, but excluding cost of primer I tack coat & including lead, lift and cost of all materials,labour, HOM complete as per specifications. Clause 504 of MORTH V revision -dto - using 40/60 TPH capacity H.M.P. with Mechanical paver Gr-11(50 mm to 75 mm) with 3.4% VG-30 Bitumen	Cum							
	Page no 159 Item no.21.11.6								
	Profile Correction Course								
	Main Carriageway								
	From 0+000 to 0+500		1	500.00	7.50	0.075	281.25		
	From 0+500 to 1+000		1	500.00	7.50	0.075	281.25		
	From 1+000 to 1+500		1	500.00	7.50	0.075	281.25		
	From 1+500 to 1+700		1	200.00	7.50	0.075	112.50		
	From 1+700 to 1+975		1	275.00	7.50	0.075	154.69		
	Total Quantity						**1110.94**		
	Profile Correction Course of 70% of the Total Quantity						**777.66**		
	Total						**777.66**	**5,363.60**	**4,171,037.06**

5551.22

DETAILED QUANTITY CALCULATION & COST ESTIMATE FOR ROAD WORKS

Sl NO	Description	Unit	No.	Length,m	Width,m	Depth, m	Quantity	Rate	Amount
II	Dry Lean Concrete (DLC) for Profile correction of existing bituminous road surface before carrying out White Topping Dry Lean Concrete (DLC) M-5 for Profile correction of existing bituminous road surface before carrying out White Topping Construction of dry lean cement concrete sub base layer over existing scarified (to the depth of 25 mm with miller machine includes mobilization, diesel and operating cost, includes cleaning by air blower/sand blasting/brooming etc.) bituminous road surface with coarse and fine aggregate conforming to IS 383, the size of coarse aggregate not exceeding 25mm, aggregate cement ratio not to exceed 15:1, aggregate gradation after blending to be as per Table 600-1, cement content not less than 160 kg/cum, optimum moisture content to be determined during trial length construction, concrete strength not to be less than 10 Mpa at 7 days, mixed in ready mix concrete plant or a batching plant (to ensure consistency) transported to site, laid to the depth of 40 mm - 50 mm with a fixed form paver with electric sensor, having gang mounted vibrators equally spaced with variable rpm and atleast three integral steel tubes with 8-10 tonnes vibratory rollers for screeding, levelling, compaction, finishing and curing, includes	Cum							
			1	1500.00	1.20	0.100	180.00	**3,605.06**	**648,910.80**
II	Providing and laying White Topping as per IRC:SP76-2008 over bituminous surface (Existing bituminous surface preparation to be done if necessary either by milling or levelling course with BM/DBM to correct surface profile and to be paid separately) with unreinforced M-40 grade pavement quality concrete (PQC)using polymeric synthetic fibre as per ASTM (1116) such as polyester I polyethylene I polypropylene at 1.20 kg/cum, mixed in batching and mixing plant or weigh batcher as per approved mix design to achieve minimum flexural strength or modulus of rupture of concrete 4.50 MPa at 28 days limiting maximum water cement ratio to 0.40, transported to site, laid with mechanical paver finisher, spread, vibrated, compacted and finished in a continuous operation to the lines and grades as per drawing, texture finishing of surface, spraying two layers of curing compound, curing with water sprayed on hessian cloth covered over concrete surface, groove cutting to a depth of 1/3 of the slab depth and of width 3-5 mm including the cost of filling the joint with joint sealant as per IRC-15. as per design (grove cutting to be paid separately). For Thin white Topping and ultra thin white topping the groove cutting shall be 1.25mm x 1.25m grid including cost of all material, side form work, labour and HOM of machineries etc. complete as per specifications.) -Do- with unreinforced M40 grade pavement quality concrete using Cum 5,813.00 43 grade OPC @ 420 kg/cum, coarse aggregate, fine aggregate and Admixture confirming to IS 9130-1999 (R-2004)	Cum							
	Page no 291 Item no.38.20.1								
	Main Carriageway								
	From 0+000 to 0+500		1	500.00	7.50	0.170	637.50		
	From 0+500 to 1+000		1	500.00	7.50	0.170	637.50		
	From 1+000 to 1+500		1	500.00	7.50	0.170	637.50		
	From 1+500 to 1+700		1	200.00	7.50	0.170	255.00		
	From 1+700 to 1+975		1	275.00	7.50	0.170	350.63		
	Total Quantity						**2518.13**		
	Additional Quantity of 6% for varying width						151.09		
	Reconstruction Section (1500m length)		1	1500	1.20	0.22	396.00		
							3065.21	**6,161.78**	**18,887,165.08**

DETAILED QUANTITY CALCULATION & COST ESTIMATE FOR ROAD WORKS

Sl NO	Description	Unit	No.	Length,m	Width,m	Depth, m	Quantity	Rate	Amount
110	Providing groove cutting for width of 4mm - 6mm and 1/3rd depth of PQC Whitetopping within 8-10 hrs of placing/finishing of PQC including cost of cutting machine, generators, HOM of machinery, blades, coolant etc., including cleaning of groove and providing sand and hot bituminous or equivalent approved sealant filling etc., including cost of conveyance of all materials, labour, lead and lift charges and all other incidental charges as per drawing and as per specifications	m							
	Page no 291 Item no.38.21								
	Main Carriageway (Longitudinal Joint)								
	From 0+000 to 0+500		1	500.00	6.00		3000.00		
	From 0+500 to 1+000		1	500.00	6.00		3000.00		
	From 1+000 to 1+500		1	500.00	6.00		3000.00		
	From 1+500 to 1+700		1	200.00	6.00		1200.00		
	From 1+700 to 1+975		1	275.00	6.00		1650.00		
	Main Carriageway (Transverse Joint)								
	From 0+000 to 0+500		1	400.00	7.50		3000.00		
	From 0+500 to 1+000		1	400.00	7.50		3000.00		
	From 1+000 to 1+500		1	400.00	7.50		3000.00		
	From 1+500 to 1+700		1	160.00	7.50		1200.00		
	From 1+700 to 1+975		1	220.00	7.50		1650.00		
							23700.00	**97.52**	**2,311,224.00**
111	Providing and inserting of 12mm dia TMT bar at 500mm c/c & applying Lokfix of Fosroc chemical of approved brand for tie rods of 12mm dia & 500mm length for the construction of longitudinal joint in Pavement Quality Concrete (PQC) at ewery 500mm centre to centre along the length of the road, the 50% of the tie rods should be embeded on both sides of joint. The tie rod should be inserted in the PQC concrete with applying lokfix including cost of conveyance of all materials , labour, lead and lift charges and all other incidental charges as per the drawing, specifications and direction of Engineer In-charge etc., complete.	Nos							
	(Data Rate)								
	From 0+000 to 0+500		1	1000.00	1.00		1000.00		
	From 0+500 to 1+000		1	1000.00	1.00		1000.00		
	From 1+000 to 1+500		1	1000.00	1.00		1000.00		
	From 1+500 to 1+700		1	400.00	1.00		400.00		
	From 1+700 to 1+975		1	550.00	1.00		550.00		
							3950.00	**198.00**	**782,100.00**
112	Providing and fixing DOWEL bars of dia 25mm,500mm length for construction joint in pavement Quality Concrete (PQC) at every construction joints along the width of the road ,the 50% of the dowel bar should be embeded on boths dies of joints,the exposed bar should be covered with PVC sleeves.The bar should be paints with epoxy paint and primer including cost of conveyance of all materials,labour lead and lift charges and all other incidental charges as per the drawing ,specifications and direction of Engineer In charge etc., complete.	Nos							
	(Data rate)								
	From 0+000 to 0+500		1	6.67	25.00		167.00		
	From 0+500 to 1+000		1	6.67	25.00		167.00		
	From 1+000 to 1+500		1	6.67	25.00		167.00		
	From 1+500 to 1+700		1	2.67	25.00		67.00		
	From 1+700 to 1+975		1	3.67	25.00		92.00		
							660.00	**646.00**	**426,360.00**
113	MSIRRB 500-9. Providing and applying tack coat using 80/100 grade bitumen (VG10) on granular base such as WMM / WBM surfaces hot bitumen primed at 4 kg per 10 sqm, heating bitumen in boiler fitted with spray set (excluding cleaning of road surface) including cost of all materials, labour, HOM of machineries complete as per specifications MORTH Chapter 5	Sqm							
	Page no 158 Item no.21.9								
	Approach Improvement		2	20.00	12.00		480.00		
	Cross Roads on the Road (42 Nos)		42	20	7.5		6300.00		

DETAILED QUANTITY CALCULATION & COST ESTIMATE FOR ROAD WORKS

Sl NO	Description	Unit	No.	Length,m	Width,m	Depth, m	Quantity	Rate	Amount
							6780.00	**21.20**	**143,736.00**
14	KSRRB 500-7. Providing and applying tack coat using 80/100 grade bitumen (VG10) on the prepared black topped surfaces at 2.5 kg per 10 sqm, heating bitumen in boiler fitted with spray set (excluding cleaning of road surface) including cost of all materials, labour, HOM of machineries complete as per specifications. MORTH Chapter 5	**Sqm**							
	Page no 158 Item no.21.7								
	Main Carriageway								
	From 0+000 to 0+500		1	500.00	7.50		3750.00		
	From 0+500 to 1+000		1	500.00	7.50		3750.00		
	From 1+000 to 1+500		1	500.00	7.50		3750.00		
	From 1+500 to 1+700		1	200.00	7.50		1500.00		
	From 1+700 to 1+975		1	275.00	7.50		2062.50		
	Total Area						**14812.50**		
	Profile Correction Course of 70% of Total Area						10368.75		
	Approach Improvement		2	20.00	12.00		480.00		
	Cross Roads on the Road (42 Nos)		42	20.00	7.50		6300.00		
							17148.75	**12.72**	**218,132.10**
15	KSRRB M500-17. Providing and laying dense graded bituminous macadam using crushed aggregates of specified grading, premixed with VG30 grade bituminous binder and, transporting the hot mix to work site, laying to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction in all respects complete as per specifications. Clause 505 of MORTH V revision - do - using 40/60 TPH capacity H.M.P. with Mechanical paver Gr-11 (50 mm to 75 mm) with 4.5 % VG-30 Bitumen	**Cum**							
	Page no 160 Item no.21.17.6								
	Approach Improvement		2	20.00	12.00	0.05	24.00		
	Cross Roads on the Road (42 Nos)		42	20.00	7.50	0.05	315.00		
							339.00	**6,597.44**	**2,236,532.16**
16	Providing and laying bituminous concrete 40mm thick with hot mix plant, using crushed aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site, laying with a paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction in all respects complete as per specifications. Clause 507 of MORTH V revision as per IRC SP-53-2015. using 40-60 TPH capacity HMP with mechanical paver grading II (30-45mm) with 5.4% of modified bituminous binder consisting of 4.97% ofVG-30 bitumen (60/70 grade) and 0.43% of plastomeric thermoplastics (waste plastic)	**Cum**							
	Page no 162 Item no.21.78.12								
	Approach Improvement		2	20.00	12.00	0.04	19.20		
	Cross Roads on the Road (42 Nos)		42	20.00	7.50	0.04	252.00		
							271.20	**7,753.90**	**2,102,857.68**
17	KSRB 14.6-1: Providing and laying heavy duty cobble stones 100mm thick interlock pavers, using cement and course sand for manufacture of blocks of approved size, shape and colour with a minimum compressive strength of M40 over 50mm thick sand bed (average thickness) and compacting with plate vibrator having 3 tons compaction force thereby forcing part of sand underneath to come up in between joints, final compaction of paver surface joints into its final level, including cost of materials, labour and HOM of machineries complete as per specifications. Specification No. KBS	**Sqm**							
	(Quotation Rate)								
	Buffer Zone								
	From 0+000 to 0+500		2	500.00	1.50		1500.00		

DETAILED QUANTITY CALCULATION & COST ESTIMATE FOR ROAD WORKS

Sl No	Description	Unit	No.	Length,m	Width,m	Depth, m	Quantity	Rate	Amount
	From 0+500 to 1+000		2	500.00	1.50		1500.00		
	From 1+000 to 1+500		2	500.00	1.50		1500.00		
	From 1+500 to 1+700		2	200.00	1.50		600.00		
	From 1+700 to 1+975		2	275.00	1.50		825.00		
							5925.00	**1,180.00**	**6,991,500.00**
18	KSRRB M2200-5.6. Providing and laying Design mix M30 with OPC @ 360kgs, with 20mm and down size graded granite metal coarse aggregates @0.69cum and fine aggregates @ 0.46cum, with superplastisiser @31ts confirming to 189103-1999 Reaffirmed-2008 including cost of materials, labour, HOM curing, form works, scaffolding and centering complete as per specifications. i) upto 5 m height	**Cum**							
	Page no 227 Item no.28.7.6								
	Buffer Zone								
	End Block for holding Paver Blocks - Longitudinal								
	From 0+000 to 0+500		2	500.00	0.075	0.150	11.25		
	From 0+500 to 1+000		2	500.00	0.075	0.150	11.25		
	From 1+000 to 1+500		2	500.00	0.075	0.150	11.25		
	From 1+500 to 1+700		2	200.00	0.075	0.150	4.50		
	From 1+700 to 1+975		2	275.00	0.075	0.150	6.19		
	End Block for holding Paver Blocks - Vertical (LHS)								
	From 0+000 to 0+500		33.33	1.50	0.150	0.150	1.13		
	From 0+500 to 1+000		33.33	1.50	0.150	0.150	1.13		
	From 1+000 to 1+500		33.33	1.50	0.150	0.150	1.13		
	From 1+500 to 1+700		13.33	1.50	0.150	0.150	0.45		
	From 1+700 to 1+975		18.33	1.50	0.150	0.150	0.62		
	End Block for holding Paver Blocks - Vertical (RHS)								
	From 0+000 to 0+500		33.33	1.50	0.150	0.150	1.13		
	From 0+500 to 1+000		33.33	1.50	0.150	0.150	1.13		
	From 1+000 to 1+500		33.33	1.50	0.150	0.150	1.13		
	From 1+500 to 1+700		13.33	1.50	0.150	0.150	0.45		
	From 1+700 to 1+975		18.33	1.50	0.150	0.150	0.62		
	Vertical End Blocks at Every 15m Interval								
							53.33	**5,739.90**	**306,080.17**
19	KSRRB M800-43. Installation of a **steel portable barricade** with horizontal rail 300 mm wide, 2.5 m in length fitted on a 'A' frame made with 45 x 45 x 5 mm angle iron section, 1.5 m in height, horizontal rail painted (2 coats) with yellow and white stripes, 150 mm in width at an angle of 45º, 'A' frame painted with 2 coats of yellow paint, complete as per IRC:SP:55-2001 complete as per specifications.	**Each**							
	Page no 187 Item no.24.44								
	From 0+000 to 0+500		2	500.00	Spacing	5.0m	100.00		
	From 0+500 to 1+000		2	500.00	Spacing	5.0m	100.00		
	From 1+000 to 1+500		2	500.00	Spacing	5.0m	100.00		
	From 1+500 to 1+700		2	200.00	Spacing	5.0m	40.00		
	From 1+700 to 1+975		2	275.00	Spacing	5.0m	55.00		
	At 10m c/c Spacing in three stretches - During Construction						**131.67**	**2,639.40**	**347,521.00**
	Cost for Carriageway Improvement								**47,788,473.39**
	Traffic Signs, Markings and Other Road Appurtenances								
20	Road Marking with Hot Applied Thermoplastic Compound with Reflectrising Glass Beads on Concrete Surface:- Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads at 250 gms and 2 Ltr of Primer per sqm area, thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC:35. The finished surface to be level, uniform and free from streaks and holes complete as per specifications. MORTH Specification No. 803	**Sqm**							
	Page no 182 Item no.24.15								
	Center line marking								
	From 0+000 to 0+500		1	500.00	0.10		16.67		
	From 0+500 to 1+000		1	500.00	0.10		16.67		
	From 1+000 to 1+500		1	500.00	0.10		16.67		

DETAILED QUANTITY CALCULATION & COST ESTIMATE FOR ROAD WORKS

Sl NO	Description	Unit	No.	Length,m	Width,m	Depth, m	Quantity	Rate	Amount
	From 1+500 to 1+700		1	200.00	0.10		6.67		
	From 1+700 to 1+975		1	275.00	0.10		9.17		
	Edge line marking								
	From 0+000 to 0+500		2	500.00	0.15		150.00		
	From 0+500 to 1+000		2	500.00	0.15		150.00		
	From 1+000 to 1+500		2	500.00	0.15		150.00		
	From 1+500 to 1+700		2	200.00	0.15		60.00		
	From 1+700 to 1+975		2	275.00	0.15		82.50		
	Pedestrian Crossing								
	Junction Improvement		6	20.00	0.50		60.00		
	Arrow Marking								
	Junction Improvement		6	2.10			12.60		
							730.93	**454.74**	**332,384.62**
2H	**KSRRB M800 Road markers / Road stud** KSRRB M800-35. Supply and Installtion of Moulded Shank Raised Pavement Markers made of polycarbonate and ABS (Acrylonitrile Butadiene Styrene) moulded body and reflective panels with micro prismatic lens capable of providing total internal reflection of the light entering the lens face and shall support a load of 16000 kg tested in accordance to Specifications of Category A of MORTH Circular No RW/NH/33023/10-97 - DO III Dt 11.06. 1997. The height, width and length shall not exceed 50 mm, 100 mm and 102 mm and with minimum reflective area of 13 Sqcm on each side and the slope to the base shall be 35 degree. The strength of detachment of the integrated cylindrical shanks, (of diameter not less than 19 mm and height not less than 30mm) from the body is to be a minimum value of 500 Kg. Fixing will be by drilling holes on the road for the shanks to go inside, without nails and using epoxy resin based adhesive as per manufacturer's recommendation and complete as directed by the engineer with 2 years warranty for the reflectivity from the original manufacturer is mandatory along with necessary test certification from the certified laboratory. Third party test certificates from a reputed test laboratory shall be submitted with Seal and Signature in Originals.	Nos							
	Page no 187 Item no.24.41								
	From 0+000 to 0+500		3	500.00	Spacing	2.5m	600.00		
	From 0+500 to 1+000		3	500.00	Spacing	2.5m	600.00		
	From 1+000 to 1+500		3	500.00	Spacing	2.5m	600.00		
	From 1+500 to 1+700		3	200.00	Spacing	2.5m	240.00		
	From 1+700 to 1+975		3	275.00	Spacing	2.5m	330.00		
	At 2.5m Center to Center Spacing						**2370.00**	**357.22**	**846,611.40**
3H	Retro-Reflectorised Traffic Signs Providing and fixing of retro - reflectorised cautionary, mandatory and informatory sign as per IRC:67 made of high intensity grade sheeting vide Clause 801.3, fixed over aluminium sheeting, 1.5 mm thick supported on a mild steel angle iron post 75 mm x 75 mm x 6 mm firmly fixed to the ground by means of properly designed foundation with M 15 grade cement concrete 45 cm x 45 cm x 60 cm, 60 cm below ground level as per approved drawing. 900 MM Equilateral triangle -Type XI	No							
	Page no 180 Item no.24.2.1 24.2.2 & 24.2.3								
	Lumpsum Provision								
	900 MM Equilateral triangle -Type XI		20				**20.00**	**3,661.24**	**73,224.80**

DETAILED QUANTITY CALCULATION & COST ESTIMATE FOR ROAD WORKS

Sl NO	Description	Unit	No.	Length,m	Width,m	Depth, m	Quantity	Rate	Amount
233	Retro-Reflectorised Traffic Signs Providing and fixing of retro - reflectorised cautionary, mandatory and informatory sign as per IRC:67 made of high intensity grade sheeting vide Clause 801.3, fixed over aluminium sheeting, 1.5 mm thick supported on a mild steel angle iron post 75 mm x 75 mm x 6 mm firmly fixed to the ground by means of properly designed foundation with M 15 grade cement concrete 45 cm x 45 cm x 60 cm, 60 cm below ground level as per approved drawing.	No							
	600 MM Circle -Type XI		10				10.00	3,309.32	33,094.00
	Cost for Traffic Signs, Markings and Other Road Appurtenances								**1,285,314.82**
	Uliity ducts,Utility Lines, Power Cross Over Chambers, Sewer Chamber								
234	KSRRB 300-1. Earthwork excavation by manual means for roads, drains & similar works in ordinary soil excavated surface levelled and sides neatly dressed, the disposed earth to be levelled neatly after breaking of clods complete as per specifications. MORTH I Chapter 3	Cum							
	Page no 143 Item no.19.1								
	Crossing Duct								
	From 0+000 to 0+500		6	10.50	1.25	1.20	94.50		
	From 0+500 to 1+000		5	10.50	1.25	1.20	78.75		
	From 1+000 to 1+500		5	10.50	1.25	1.20	78.75		
	From 1+500 to 1+700		2	10.50	1.25	1.20	31.50		
	From 1+700 to 1+975		3	10.50	1.25	1.20	47.25		
	At Junctions		42	7.50	0.75	1.20	283.50		
	Crossing Duct Chamber		42	2.00	1.30	1.45	158.34		
							772.59	**137.80**	**106,462.90**
235	KSRRB M800-29.2. Providing and laying of a reinforced cement concrete pipe duct, 300 mm dia, across the road (new construction), extending from drain to drain in cuts and toe of slope to toe of slope in fills, constructing head walls at both ends, providing a minimum fill of granular material overtop and sides of RCC pipe as per IRC:98-1997, bedded on a 0.3 m thick layer of granular material free of rock pieces, outer to outer distance of pipe at least half dia of pipe subject to minimum450 mm in case of double and triple row ducts, joints to be made leak proof,invert level ofductto be above higher than ground level to prevent entry of water and dirt, all as per IRC: 98- 1997 and approved drawings complete as per specifications. Case -II: Double row for two utility services	m							
	Page no 186 Item no.24.35								
	Crossing Duct								
	From 0+000 to 0+500			6.00	10.50		63.00		
	From 0+500 to 1+000			5.00	10.50		52.50		
	From 1+000 to 1+500			5.00	10.50		52.50		
	From 1+500 to 1+700			2.00	10.50		21.00		
	From 1+700 to 1+975			3.00	10.50		31.50		
							220.50	**3,382.46**	**745,832.43**
236	Providing and stone dust in foundation upto plinth to required depth for sub soil treatment including watering ramming with all lead and lift complete as per specifications and as per directions of engineer in charge	Cum							
	(Data Rate)								
	Duct Refilling (Stone Dust)								
	From 0+000 to 0+500		6	10.50	1.25	0.90	70.88		
	From 0+500 to 1+000		5	10.50	1.25	0.90	59.06		
	From 1+000 to 1+500		5	10.50	1.25	0.90	59.06		
	From 1+500 to 1+700		2	10.50	1.25	0.90	23.63		
	From 1+700 to 1+975		3	10.50	1.25	0.90	35.44		
	At Junctions		42	7.50	0.75	0.90	212.63		
			21				**460.69**	**2,540.00**	**1,170,146.25**

DETAILED QUANTITY CALCULATION & COST ESTIMATE FOR ROAD WORKS

Sl NO	Description	Unit	No.	Length,m	Width,m	Depth, m	Quantity	Rate	Amount
37	Dry Lean Concrete (DLC) for Profile correction of existing bituminous road surface before carrying out White Topping Dry Lean Concrete (DLC) M-5 for Profile correction of existing bituminous road surface before carrying out White Topping Construction of dry lean cement concrete sub base layer over existing scarified (to the depth of 25 mm with miller machine includes mobilization, diesel and operating cost, includes cleaning by air blower/sand blasting/brooming etc.) bituminous road surface with coarse and fine aggregate conforming to IS 383, the size of coarse aggregate not exceeding 25mm, aggregate cement ratio not to exceed 15:1, aggregate gradation after blending to be as per Table 600-1, cement content not less than 160 kg/cum, optimum moisture content to be determined during trial length construction, concrete strength not to be less than 10 Mpa at 7 days, mixed in ready mix concrete plant or a batching plant (to ensure consistency) transported to site, laid to the depth of 40 mm - 50 mm with a fixed form paver with electric sensor, having gang mounted vibrators equally spaced with variable rpm and atleast three integral steel tubes with 8-10 tonnes vibratory rollers for screeding, levelling, compaction, finishing and curing, includes	Cum							
	From 0+000 to 0+500		6	10.50	1.25	0.100	7.88		
	From 0+500 to 1+000		5	10.50	1.25	0.100	6.56		
	From 1+000 to 1+500		5	10.50	1.25	0.100	6.56		
	From 1+500 to 1+700		2	10.50	1.25	0.100	2.63		
	From 1+700 to 1+975		3	10.50	1.25	0.100	3.94		
							27.56	**3,605.06**	**99,364.47**
38	Construction of granular sub-base Grading-V as Sub-base and drainage layer by providing coarse graded crushed stone aggregates of granite/ trap/basalt material, mixing in a mechanical mix plant at OMC, Carriage of mixed material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with vibratory power roller to achieve the 98 % proctor density, complete as per specifications. Clause 401 of MORTH V Revision.	Cum							
	From 0+000 to 0+500		6	10.50	1.25	0.20	15.75		
	From 0+500 to 1+000		5	10.50	1.25	0.20	13.13		
	From 1+000 to 1+500		5	10.50	1.25	0.20	13.13		
	From 1+500 to 1+700		2	10.50	1.25	0.20	5.25		
	From 1+700 to 1+975		3	10.50	1.25	0.20	7.88		
	At Junctions		42	7.50	0.75	0.20	47.25		
							102.38	**1,855.00**	**189,905.63**
39	KSRRB M2200-5.1 Providing and laying cement concrete of mix 1:2:4 with OPC @ 240kgs, with 40mm and down size graded granite metal coarse aggregates @0.63cum and fine aggregates @ 0.42cum including cost of materials, labour, HOM curing, form works, scaffolding and centering complete as per MORTH Section : 2200 & IS 456 a) upto 5mtr height- (M-15) (PW,P& IWTD SR 2018-19 P-226, I-28.7.1)	Cum							
	Page no 226 Item no 28.7.1								
	Crossing Duct Chamber		42	2.00	1.30	0.15	16.38		
							16.38	**5,746.26**	**94,123.74**
39	KSRRB M2200-5.9. Providing and laying Design mix M20 with OPC @ 320kgs, with 20mm and down size graded granite metal coarse aggregates @0.69cum and fine aggregates @ 0.46cum, with superplastisiser @31ts conforming to IS9/1 03-1999 Reaffirmed-2008 including cost of materials, labour, HOM curing, form works, scaffolding and centering complete as per specifications. i) Upto 5 m height.	Cum							
	Page no 227 Item no 28.7.9								
	Crossing Duct Chamber								
	Bottom Slab		42	1.80	1.10	0.150	12.47		
	Side Wall		84	1.80	0.15	1.00	22.68		
			84	0.80	0.15	1.00	10.08		
	Cover Slab		42	1.80	1.10	0.150	12.47		
							57.71	**5,483.38**	**316,434.89**

DETAILED QUANTITY CALCULATION & COST ESTIMATE FOR ROAD WORKS

Sl NO	Description	Unit	No.	Length,m	Width,m	Depth, m	Quantity	Rate	Amount
31	KSRRB M2200-6. Providing T.M.T. steel reinforcement for R.C.C. work including straightening, cutting, bending, hooking, placing in position, lapping and/or welding wherever required, tying with binding wire and anchoring to the adjoining members wherever necessary complete as per design (laps, hooks and wastage shall not be measured and paid) cost of materials, labour, HOM complete as per specification. MORTH Specification No.1600 & 2200 TMT Bars Fe 500	**Tonne**							
	Page no 229 Item no.28.8.2								
	Crossing Duct Chamber		58			70.00	4039.56		
	70kg per Cum						**4.04**	**72,326.98**	**292,169.18**
32	KSRRB 300-1. Earthwork excavation by manual means for roads, drains & similar works in ordinary soil excavated surface levelled and sides neatly dressed, the disposed earth to be levelled neatly after breaking of clods complete as per specifications. MORTH I Chapter 3	**Cum**							
	PWD SR Page no 143 item no.19.1								
	POWER/OFC Access Chamber, 100m C/C		40	1.40	2.40	1.50	201.60		
							201.60	**137.80**	**27780.48**
33	Supplying HDPE pipes confirming to IS 4984:1995 with latest amendments and conveying to work site including loading and unloading at both destination and rolling, lowering into trenches, laying true to line and joining of pipes and specials including encasing the pipe around to a depth of not less than 15cm with soft gravel or selected earth available from the excavation etc., complete, giving hydraulic test as per relevant ISS with all lead and lift including testing and commissioning, The rate is exclusive of required specials and fittings etc., complete (Contractor will make his own arrangement for procuring water for testing) **110mm dia** for OFC /Telecom /Surveillance Complete including all lead and lifts and as per the directions of engineer in charge. **(HDPE Grade - PE100 confirming to IS 4984-1995) PN 6.0.**	**Rmt**							
	BWSSB SR 2017-18 Page no125 item no.6.2								
	From 0+000 to 0+500		4	500.00			2000.00		
	From 0+500 to 1+000		4	500.00			2000.00		
	From 1+000 to 1+500		4	500.00			2000.00		
	From 1+500 to 1+700		4	200.00			800.00		
	From 1+700 to 1+975		4	275.00			1100.00		
	Deduction for Chambers		40	1.40			-60.00		
	2 nos. each on both sides						**7840.00**	**358.93**	**2814011.20**
34	KSRRB M2200-5.1 Providing and laying cement concrete of mix 1:2:4 with OPC @ 240kgs, with 40mm and down size graded granite metal coarse aggregates @0.63cum and fine aggregates @ 0.42cum including cost of materials, labour, HOM curing, form works, scaffolding and centering complete as per MORTH Section : 2200 & IS 456 a) upto 5mtr heigh~ (M-15) (PW,P& IWTD SR 2018-19 P-226, I-no.7.1)	**Cum**							
	PWD SR Page no 226 item no.28.7.1								
	POWER/OFC Access Chamber, 100m C/C		40	1.40	2.40	0.10	13.44		
							13.44	**5746.26**	**77229.73**
35	KSRRB M2200-5.9. Providing and laying Design mix M20 with OPC @ 320kgs, with 20mm and down size graded granite metal coarse aggregates @0.69cum and fine aggregates @ 0.46cum, with superplastisiser @31ts confirming to IS91 03-1999 Reaffirmed-2008 including cost of materials, labour, HOM curing, form works, scaffolding and centering complete as per specifications. i- i) Upto 5 m height.	**Cum**							
	PWD SR Page no 227 item no.28.7.9								
	POWER/OFC Access Chamber, 100m C/C								
	Bottom Slab		40	1.30	2.30	0.250	29.90		
	Side Wall		80	6.60	0.25	0.90	118.80		

DETAILED QUANTITY CALCULATION & COST ESTIMATE FOR ROAD WORKS

Sl No	Description	Unit	No.	Length,m	Width,m	Depth, m	Quantity	Rate	Amount
					Sub Total		148.70		
							148.70	5483.38	815378.61
36	KSRRB M2200-6. Providing T.M.T. steel reinforcement for R.C.C. work including straightening, cutting, bending, hooking, placing in position, lapping and/or welding wherever required, tying with binding wire and anchoring to the adjoining members wherever necessary complete as per design (laps, hooks and wastage shall not be measured and paid) cost of materials, labour, HOM complete as per specification. MORTH Specification No.1600 & 2200 TMT Bars Fe 500	Tonne							
	PWD SR Page no 229 item no.28.8.2								
	POWER/OFC Access Chamber, 100m C/C		148.70			55.00	8178.50		
	Bldg per Cum						8.18	72326.98	591526.21
37	Supply,fabrication and fixing of cast iron items such as recess manhole covers,bollards,manhole covers with gratings etc as per approved drawing and confirming to BS-EN-124-B-124 standards(PW,P & IWTD SR 2016-17,Pg No:VIII Sl.No.223 Code No.0723) DR	Kgs							
	(Data Rate)								
	For Power Chamber (100m Interval)								
			40		417.50	1.00	16700.00		
							16700.00	106.32	1775544.00
38	Supplying PVC ringtite pipe confirming to IS 4985:2000 with latest amendments and conveying to worksite, rolling and lowering into trenches, laying true to line and level and perfect linking at joints, testing and commissioning, including loading and unloading at both destinations and cuts of pipes wherever necessary including jointing of PVC pipes and specials (excluding cost of specials) with jointing of approved type, with all labour, with all lead & lift including encasing the pipe alround to a depth of not less than 15cms with soft gravel or selected earth avilable from the excavation etc. complete and giving necessary hydraulic test to the required pressure as per ISS (Contractor will make his own arrangements for procuring water for testing). 25 - 10 Kg/Cm2 (Class5)	Rmt							
	BMSSB SR 2017-18 Page no 133 item no.1.1								
	House Service Connections								
	From 0+000 to 0+500		2	3.00			6.00		
	From 0+500 to 1+000		2	3.00			6.00		
	From 1+000 to 1+500		2	3.00			6.00		
	From 1+500 to 1+700		2	3.00			6.00		
	From 1+700 to 1+975		2	3.00			6.00		
	3m length Per Connection						**30.00**	**40.18**	**1205.40**
39	Supplying PVC ringtite pipe confirming to IS 4985:2000 with latest amendments and conveying to worksite, rolling and lowering into trenches, laying true to line and level and perfect linking at joints, testing and commissioning, including loading and unloading at both destinations and cuts of pipes wherever necessary including jointing of PVC pipes and specials (excluding cost of specials) with jointing of approved type, with all labour, with all lead & lift including encasing the pipe alround to a depth of not less than 15cms with soft gravel or selected earth avilable from the excavation etc. complete and giving necessary hydraulic test to the required pressure as per ISS (Contractor will make his own arrangements for procuring water for testing). 32 - 10 Kg/Cm2 (Class5)	Rmt							
	BMSSB SR 2017-18 Page no 133 item no.1.2								
	House Service Connections								
	From 0+000 to 0+500		2	3.00			6.00		
	From 0+500 to 1+000		2	3.00			6.00		
	From 1+000 to 1+500		2	3.00			6.00		
	From 1+500 to 1+700		2	3.00			6.00		
	From 1+700 to 1+975		2	3.00			6.00		
	3m length Per Connection						**30.00**	**62.50**	**1875.00**

DETAILED QUANTITY CALCULATION & COST ESTIMATE FOR ROAD WORKS

Sl NO	Description	Unit	No.	Length,m	Width,m	Depth, m	Quantity	Rate	Amount
40	Supplying PVC ringtite pipe confirming to IS 4985:2000 with latest amendments and conveying to worksite, rolling and lowering into trenches, laying true to line and level and perfect linking at joints, testing and commissioning, including loading and unloading at both destinations and cuts of pipes wherever necessary including jointing of PVC pipes and specials (excluding cost of specials) with jointing of approved type, with all labour, with all lead & lift including encasing the pipe alround to a depth of not less than 15cms with soft gravel or selected earth avilable from the excavation etc. complete and giving necessary hydraulic test to the required pressure as per ISS (Contractor will make his own arrangements for procuring water for testing). **SI - 6 Kg/Cm2 (Class3)**	**Rmt**							
	BWSSB SR 2017-18 Page no 133 item no.1.3								
	House Service Connections								
	From 0+000 to 0+500		2	3.00			6.00		
	From 0+500 to 1+000		2	3.00			6.00		
	From 1+000 to 1+500		2	3.00			6.00		
	From 1+500 to 1+700		2	3.00			6.00		
	From 1+700 to 1+975		2	3.00			6.00		
	3m length Per Connection						**30.00**	**95.54**	**2866.20**
41	KSRRB 300-58. **Compaction of original ground** with maximum of 6 passes of 8 to 10 tonnes power roller including filling in depresion occuring during rolling including cost of all labour, HOM of machinery complete as per specifications. MORTH / Chapter 3	**Sqm**							
	PWD SR Page no147 item no.19.64								
	Utilities Area								
	From 0+000 to 0+500		2	500	2		2000		
	From 0+500 to 1+000		2	500	2		2000		
	From 1+000 to 1+500		2	500	2		2000		
	From 1+500 to 1+700		2	200	2		800		
	From 1+700 to 1+975		2	275	2		1100		
							7900.00	**6.36**	**50244.00**
	Cost for Uliity ducts,Utility Lines, Power Cross Over Chambers								**9172100.31**
	Rain Water Harvesting								
42	KSRRB 300-1. Earthwork excavation by manual means in ordinary soil involving an average horizontal throw upto 2 meters and an average lift upto 1.5 m, excavated surface leveled and sides neatly dressed, the disposed earth to be leveled neatly after breaking of clods complete as per specifications. MORTH / Chapter 3(PW,P& IWTD SR 2016-17 Pg No 142 Item No. 19.1)	**Cum**							
	PWD SR Page no143 item no.19.1								
	From 0+000 to 0+500		2	17.00	1.53958	1.8	94.22		
	From 0+500 to 1+000		2	17.00	1.53958	1.8	94.22		
	From 1+000 to 1+500		2	17.00	1.53958	1.8	94.22		
	From 1+500 to 1+700		2	7.00	1.53958	1.8	38.80		
	From 1+700 to 1+975		2	10.00	1.53958	1.8	55.42		
				136.00			**376.89**	**137.80**	**51935.33**
43	Filling in foundation with granite/trap broken metal 100mm and down size, with approved sand including hand packing, ramming, watering, including cost of all materials and labour with lead up to 50m and lift 1.5m complete as per specifications. a) 40mm Jelly. (Data Rate)	**Cum**	136.00	1.13112	0.4		61.53	**1901.00**	116974.10
44	Filling in foundation with granite/trap broken metal 100mm and down size, with approved sand including hand packing, ramming, watering, including cost of all materials and labour with lead up to 50m and lift 1.5m complete as per specifications. c) 20mm Jelly. (Data Rate)	**Cum**	136.00	1.13112	0.4		61.53	**1901.00**	116974.10
45	Filling in foundation with granite/trap broken metal 100mm and down size, with approved sand including hand packing, ramming, watering, including cost of all materials and labour with lead up to 50m and lift 1.5m complete as per specifications. d) Coarse sand. (Data Rate)	**Cum**	136.00	1.13112	0.3		46.15	**2651.00**	122342.84

DETAILED QUANTITY CALCULATION & COST ESTIMATE FOR ROAD WORKS

Sl No	Description	Unit	No.	Length,m	Width,m	Depth, m	Quantity	Rate	Amount
46	Filling in foundation with granite/trap broken metal 100mm and down size, with approved sand including hand packing, ramming, watering, including cost of all materials and labour with lead up to 50m and lift 1.5m complete as per specifications. e) Fine Sand (Data Rate)	**Cum**	136.00	1.13112	0.2		30.77	**2651.00**	81561.90
47	Filling in foundation with granite/trap broken metal 100mm and down size, with approved sand including hand packing, ramming, watering, including cost of all materials and labour with lead up to 50m and lift 1.5m complete as per specifications. f) 12.5mm chips (Data Rate)	**Cum**	136.00	1.13112	0.3		46.15	**1901.00**	87730.57
48	Supplying and erection of R.C.C Rings for well steining of 0.3m depth using M-20 grade cement concrete using clean graded granite or trap or jelly of approved quality 20mm and down size well compated includig centering, from work and plastering for both faces with C.M.1:3 proportion as per design using 6.5m M.S. Coil at the rate of 10 KGs/ring including cost of steel and fabrication bailling out of water, errection etc.,(PRECB SR 2012-2013 P-44 ,8.8a-iii) For 1.20m dia(clear) ring of steining thickness 0.075 Mtrs up to 18Mtr depth. For 1.8 Mtr depth,Number of rings required is 1.8/.3=6nos.	**Nos**							
	(Data Rate)								
	From 0+000 to 0+500		34			6.00	204.00		
	From 0+500 to 1+000		34			6.00	204.00		
	From 1+000 to 1+500		34			6.00	204.00		
	From 1+500 to 1+700		14			6.00	84.00		
	From 1+700 to 1+975		20			6.00	120.00		
							816.00	**950.00**	**775200.00**
49	Providing of Geonets for Rain Water Harvesting pit on top of the filter media as specified in drawings or as approved by Engineer Incharge.	**Sqm**							
	(Data Rate)								
	From 0+000 to 0+500		34		1.53958		52.35		
	From 0+500 to 1+000		34		1.53958		52.35		
	From 1+000 to 1+500		34		1.53958		52.35		
	From 1+500 to 1+700		14		1.53958		21.55		
	From 1+700 to 1+975		20		1.53958		30.79		
							209.38	**71.03**	**14872.47**
	Cost for Rain water harvesting								**1367591.30**
	Construction of Roadside Drain								
50	**KSRRB 300 - Excavation for Road, Drains and similar works** KSRRB 300-1. Earthwork excavation by manual means in ordinary soil involving an average horizontal throw upto 2 meters and an average lift upto 1.5 m, excavated surface leveled and sides neatly dressed, the disposed earth to be leveled neatly after breaking of clods complete as per specifications MORTH / Chapter 3	**Cum**							
	PWD SR Page no 143 item no.19.1								
	RCC Drain								
	From 0+000 to 0+500		2	500.00	1.25	1.15	1437.50		
	From 0+500 to 1+000		2	500.00	1.25	1.15	1437.50		
	From 1+000 to 1+500		2	500.00	1.25	1.15	1437.50		
	From 1+500 to 1+700		2	200.00	1.25	1.15	575.00		
	From 1+700 to 1+975		2	275.00	1.25	1.15	790.63		
	100% of total Quantity						**5678.13**		
	Cross Roads on the Road (42 Nos)		84	5.00	1.25	1.15	603.75		
	Utility Duct for Power/OFC pipes		2	1975.00	0.75	0.88	2592.19		
							8874.06	**137.80**	**1,222,845.81**
51	KSRRB M2200-5.1 Providing and laying cement concrete of mix 1:2:4 with OPC @ 240kgs, with 40mm and down size graded granite metal coarse aggregates @0.63cum and fine aggregates @ 0.42cum including cost of materials, labour, HOM curing, form works, scaffolding and centering complete as per MORTH Section : 2200 & IS 456 a) upto 5mtr height~ (M-15) (PW,P& IWTD SR 2018-19 P-226, I-no.7.1)	**Cum**							
	Page no 226 Item no.28.7.1								